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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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APPLICANTS	:	BLECKMANN, Andreas
SERIAL NO.	:	**09/577,294**
FILED	:	23 May 2000
FOR	:	PREPARATIONS OF THE W/O EMULSION TYPE WITH AN INCREASED WATER CONTENT, COMPRISING MODERATELY POLAR LIPIDS AND SILICONE EMULSIFIERS AND, IF DESIRED, CATIONIC POLYMERS
ART UNIT	:	**1619**
EXAMINER	:	**Lauren Q. Wells**

22 January 2004

Mail Stop: Appeal Brief-Patents

Hon. Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANTS' BRIEF ON APPEAL PURSUANT TO 37 CFR § 1.192

SIR:

This is an appeal from the final rejection dated 22 July 2003.

(1) REAL PARTY IN INTEREST

The real party in interest is **Beiersdorf AG** by virtue of an assignment recorded on at Reel 011139, Frame 0451 (Recorded on 18 September 2000).

(2) RELATED APPEALS AND INTERFERENCES

There are no related appeals and interferences.

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(3) STATUS OF CLAIMS

Claims 1-12 are pending and stand rejected.

(4) STATUS OF AMENDMENTS - PROSECUTION HISTORY NOTES

All amendments are believed to have been entered.

The appellants also would like to note for the purpose of establishing a pattern of inconsistent positions set forth by the examiner and non-adherence to the principles of compact prosecution (to contrast with appellants' adherence of the same) that the examiner sent the applicant a restriction requirement (see Paper No. 18; dated 2 July 2002) after the applicants filed a request for a CPA on 26 April 2002 even though similar subject matter had been given two separate office actions on the merits by the examiner.

The applicants complied with the restriction requirement but petitioned its validity when the restriction requirement was made final. The Group Director for Tech Center 1600, John Doll, granted the appellants' petition and the restriction was withdrawn (see Petition Decision dated 12 February 2002 (sic)).

The appellants also complied on 5 September 2002 with examiner's request to fax courtesy copies of the pending claims for the application serial numbers which were under consideration for her provisional double patenting rejection (unknown whether the pending application(s) were available to the examiner at the time of the request).

It is also noted that the prior art in the references used in the first action on the merits after the CPA differs from the references used in first two office actions on the merits. Although one could normally attribute use of new references to additional claim limitations made, each of the rejections based on the new reference acknowledged that the reference lacked the new limitation entered into the claim (see Paper 20; dated 17 October 2002). Moreover, the new primary reference (Fänger et al. - published 28 November 2000) used by the examiner in each of her 103(a) rejections was available to be searched in the PTO database at the time the very first office action was issued in this application (see Paper No. 5; dated 30 January 2001). Thus, the net effect of the applicants filing of

the ***continuing prosecution*** application is that the examiner effectively turned it into something akin to a new application with no prior office actions on the merits which wasted the time and efforts of both parties.

(5) SUMMARY OF INVENTION

The present invention relates to water-in-oil emulsions (a) with a content of water and optionally water-soluble substances totalling at least 75% by weight and with a content of lipids, emulsifiers and lipophilic constituents totalling at most 25%, based in each case on the total weight of the emulsions, (b) whose oil phase is chosen from the group of lipids or lipid mixtures, where the total polarity of the oil phase is between 20 and 30 mN/m, (c) comprising at least one interface-active substance, selected from the group consisting of alkylmethicone copolyols, alkyldimethicone copolyols, and mixtures thereof, (d) optionally, comprising one or more cationic polymers, and having a viscosity at 25°C which is less than 5000 mPa•s.

Support for this invention can be found throughout the specification (e.g. page 4, fourth full paragraph and page 6, last two lines through page 7, first two lines of the specification.). Claims 2-12 represent narrower embodiments of the invention.

(6) ISSUES

1. Whether claims 1 and 6 are vague and indefinite for the reasons cited under 35 U.S.C. 112, second paragraph.

2. Whether claims 1, 3-8, 11 and 12 are obvious over Fänger et al. (U.S. Patent 6,153,204) in view of Albacarys et al. (U.S. Patent 6,338,855) - ***note: The rejection on page 4 of Paper No. 25 only lists Fänger et al. as a reference, however the rejection clearly intends to read upon Fänger et al. in view of Albacarys et al. In the interest of advancing prosecution, whatever technicalities may exist for petitioning the finality of the rejection on this ground are waived by the appellants and the examiner is requested to continue with the Examiner's Answer if the claims are not allowed.***

3. Whether claims 2, 9 and 10 are obvious over Fänger et al. (U.S. Patent 6,153,204) in view of Albacarys et al. (U.S. Patent 6,338,855); Mahieu et al. (U.S. Patent 5,616,746) and Phillippe et

al. (U.S. Publication 2002/0064539).

NOTE: The claims were also provisionally rejected over application serial no. 09/963,161 and 09/328,792. The examiner correctly pointed out that 09/963,161 is not abandoned and is currently under a Notice of Appeal. The appellants believe that examiner's reference to 09/328,792 really refers to 09/328,727 as '792 is directed toward a "Door Lock Device for Vehicles" and corresponds to U.S. Patent 6,241,293.

The appellants request that the Board also hold these rejections in abeyance as no allowable subject matter has been indicated in any of these applications.

(7) GROUPING OF CLAIMS

Claims 1-12 are all directed toward water-in-oil emulsions. However, claims 1, 3-8, 11 and 12 are grouped together by the examiner in one rejection ("Group I") and claims 2, 9 and 10 are grouped together in another rejection ("Group II"). The appellants would agree that the claims of Group I and Group II should separately stand or fall on their own merits with the exception of claim 7 in Group I which has an additional limitation that should be considered on their own merits.

(8) ARGUMENT

ISSUE #1:	**Whether claims 1 and 6 are vague and indefinite for the reasons cited under 35 U.S.C. 112, second paragraph.**

Basis for the Rejection

Claims 1 and 6 were rejected for being vague and indefinite for the following reasons:

(1) use of the phrase "lipids...and lipophilic constituents" (claim 1); and

(2) use of the term "derivatives" as used in the context of "cationic cellulose derivatives" and "cationic chitin derivatives" (claim 6);

Standard of Review

The two separate requirements for 35 U.S.C. § 112, second paragraph are:

(A) the claims must set forth the subject matter that applicants regard as their invention; and

(B) the claims must particularly point out and distinctly define the metes and bounds of the subject

matter that will be protected by the patent grant.

MPEP 2171 states that:
"The first requirement is a subjective one because it is dependent on what the applicants for a patent regard as their invention. The second requirement is an objective one because it is not dependent on the views of the applicant or any particular individual, but is evaluated in the context of whether the claim is definite -- i.e., whether the scope of the claim is clear to a hypothetical person possessing the ordinary level of skill in the pertinent art.

MPEP 2172, section I (Focus for Examination) states that:
"...the invention set forth in the claims must be presumed, ***in the absence of evidence to the contrary***, to be that which applicants regard as their invention. *In re Moore*, 439 F.2d 1232, 169 USPQ 236 (CCPA 1971)." (bold and italics added for emphasis).

MPEP 2173.02 (Clarity and Precision) states that:
"The examiner's focus during examination of claims for compliance with the requirement for definiteness of 35 U.S.C. 112, second paragraph is whether the claim meets the threshold requirements of clarity and precision, ***not whether more suitable language or modes of expression are available.*** When the examiner is satisfied that patentable subject matter is disclosed, and it is apparent to the examiner that the claims are directed to such patentable subject matter, ***he or she should allow claims which define with a reasonable degree of particularity and distinctness. Some latitude in the manner of expression and the aptness of terms should be permitted even though the claim language is not as precise as the examiner might desire. Examiners are encouraged to suggest claim language to applicants*** to improve clarity or precision of the language used, but should not reject claims or insist on their own preferences if other modes of expression selected by applicants satisfy the statutory requirement...

Definiteness of claim language must be analyzed, not in a vacuum, but in light of:

(A) The content of the particular application disclosure;
(B) The teachings of the prior art; and
(C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made." (bold and italics added for emphasis)

Procedural Notes

As previously noted, the appellants received two office actions on the merits prior to filing a CPA.

The claim language that is now being rejected under 35 U.S.C. 112, second paragraph was also part of the claims as originally filed. In both of those office actions (Papers No. 5 and 10) while ther were rejection under 112, second paragraph for other claim language in Paper No. 5, there was no rejection under 35 U.S.C. 112, second paragraph for the terms now under rejection.

In addition, at no time during the prosecution of the application did the examiner suggest claim language to "improve the clarity or precision of the language used".

(1) No evidence that the phrase "lipids... and lipophilic constituents" is vague and indefinite

While the examiner has asserted that the phrase "lipid and lipophilic constituents" in claim 1 is vague and indefinite and "confusing", there has never been any evidence which suggests that one of ordinary skill in the art would agree with the examiner's assertions or that the appellants have not defined their invention with a reasonable degree of particularity and distinctness.

The examiner appears to acknowledge that the terms "lipids" and "lipophilic" are well known in the art and in the Advisory Action (Paper No. 28) also agrees that double inclusion is allowed which, when taking the examiner's position at face value, should make it irrelevant whether "lipophilic" and "lipophilic constituents" are the same or distinct (similar rationale for the allowance of double inclusion in Markush groups).

As previously noted, despite this language being part of the original claims, this rejection was not made until the third office action on the merits and no suggestion for alternative language has ever been made by the examiner.

For the appellant's particular invention, none of the ingredients cited within the claims are considered to be novel, it is the particular combination of elements and limitations which are considered to be patentable, i.e. the appellants are not asking one of ordinary skill in the art to appraise the scope of previously unknown compounds.

With regard to the teaching of the prior art, although the applicants are not required to provide any evidence in support of their claim language, there is some evidence that this is a term of the art as two U.S. Patents also use this phrase (see U.S. Patents 4,711,902 (claim 21) and U.S. Patent 6,113,928 (claim 5)).

Lastly, the relatively low technical complexity for "lipids" and "lipophilic constituents" (as compared, for example, with biotechnology) and given the fact that the claimed invention is a water-in-oil emulsion, one of ordinary skill in the emulsion arts would be able to ascertain the meaning and scope of "lipids" and "lipophilic constituents" as it relates to the oil phase of the emulsion.

For any of these reasons, the appellants hold that one of ordinary skill in the art would be able to ascertain whether a compound was inside or outside the scope of the appellants' invention as claimed and that the examiner has not properly established

(2) No evidence the term "derivatives" as used in the context of "cationic cellulose derivatives" and "cationic chitin derivatives" is vague and indefinite

While the examiner has asserted that the term "derivatives" is indefinite, the appellants again point out that this term is used as part of the phrase "cationic cellulose derivatives" and "cationic chitin derivatives. The appellants previously hinted in their response of 17 April 2003 that perhaps this rejection (as suggested by the questions asked by the examiner) was based on breadth and not indefiniteness but the examiner refuted this position in Paper No. 25 (see page 3, lines 4-6 of section (ii) - "First, the Examiner respectfully points out that the claim is being rejected because its metes and bounds are unascertainable and not because of its breadth."

Again, there has never been any evidence presented by the examiner which suggests that one of ordinary skill in the art would agree with the examiner's assertions or that the appellants have not defined their invention with a reasonable degree of particularity and distinctness.

As previously noted, despite this language being part of the original claims, this rejection was not made until the third office action on the merits and no suggestion for alternative language has ever been made by the examiner.

The examiner by her silence appears to agree that the terms "cationic", "cellulose" and "chitin" are all well defined terms in the art. It is repeated that for the appellant's particular invention, none of the ingredients cited within the claims are considered to be novel, it is the particular combination of elements and limitations which are considered to be patentable, i.e. the appellants are not asking one of ordinary skill in the art to appraise the scope of previously unknown compounds.

As such, it remains unclear why one of ordinary skill in the emulsions arts would be unable to determine whether a compound was or was not a "cationic cellulose derivative" or a "cationic chitin derivative"

ISSUE #2:	**Whether claims 1, 3-8, 11 and 12 are obvious over Fänger et al. (U.S. Patent 6,153,204) in view of Albacarys et al. (U.S. Patent 6,338,855)**

Standard of Review

MPEP 2141 states that "Office policy is to follow *Graham v. John Deere Co.* in the consideration and determination of obviousness under 35 U.S.C. 103." In addition, MPEP 2141 also recites that "When applying 35 U.S.C. 103, the following tenets of patent law ***must be adhered to***:

(A) The claimed invention must be considered as a whole;

(B) The references must be considered as a whole and must suggest the desirability and this the obviousness of making the combination;

(C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and

(D) Reasonable expectation of success is the standard with which obviousness is determined.

Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986)." (bold and italics added for emphasis)

MPEP 2142 states in part:

"...To reach a proper determination under 35 U.S.C. 103, the examiner must step backward in time and into the shoes worn by the hypothetical "person of ordinary skill in the art" ***when the invention was unknown and just before it was made***. In view of all factual information, the examiner must then make a determination whether the claimed invention "as a whole" would have been obvious at that time to that person. ***Knowledge of applicant's disclosure must be put aside in reaching this determination***, yet kept in mind in order to determine the "differences," conduct the search and evaluate the "subject matter as a whole" of the invention." (bold and italics added for emphasis)

MPEP 2143.03 (All Claim Limitations Must Be Taught or Suggested) states that "To establish *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art." (see also *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)).

Summary of Respons

(1) "As a Whole" reading of Fänger et al. is different from examiner's characterization

(2) Combination of Fänger et al. and Albacarys et al. is based on hindsight reconstruction

(3) No evidence or rationale provided for Fänger et al. and Albacarys et al. having appellants' claimed viscosity range

(4) Claim limitations of claim 7 are not taught by Fänger et al. in view of Albacarys et al.

(1) "As a Whole" reading of Fänger et al. is different from examiner's characterization

Before proceeding with the arguments against the rejection made, the appellants would like to clarify for the Board what the Fänger et al. reference teaches as a whole as the examiner's characterization of it in Paper No. 25, page 4, last full paragraph is a little misleading.

First, the claims of Fänger are directed toward a method of reducing stickiness of a cosmetic or dermatological preparation and the examiner's reliance for the teaching of the appellants' claimed invention resides in the specification and more specifically from a single exemplification of a water-in-oil emulsion comprising 1.5% laurylmethicone copolyol, 0.5 cetylmethicone copolyol, 4% capric/caprylic triglycerides, 4% glycerol and water where the water phase comprises 76% of the composition. (Note: Although not pointed out by the examiner, this exemplification appears to correspond to Example 6).

Second, the examiner has omitted the key feature of the Fänger et al. reference, i.e. the incorporation of an effective concentration of hydrophilic starch esterified with one or more n-octenylsuccinate radicals (see Abstract and col. 4, lines 11-15 of Fänger et al.). This esterified starch is also present in Example 6 as Amiogum® 23 and there is no indication that the esterified starch can be removed from Fänger et al.'s claimed invention without causing it to be unsatisfactory for its intended purpose.

Therefore, the examiner's use of Fänger et al. will require an interpretation that the appellants' water-in-oil emulsions ***must*** also include the hydrophilic starch esterified with one or more n-octenylsuccinate radicals taught by Fänger et al.

(2) C mbination of Fäng r et al. and Albacarys t al. is based on hindsight reconstruction

The examiner acknowledged that one of the differences between the Fänger et al. and the appellants' claims is the lack of a cationic polymer in the teaching of Fänger et al. The Albacarys et al. reference is introduced to supplement the teachings of Fänger et al. However, some perspective is in order before delving into the merits of the combination.

In both the appellants claims and the teachings of the prior art, the respective inventions are not based upon a novel compound but a novel and unobvious combination of known ingredients. It was these unique combinations which served to gain patentable claims for Fänger et al. and Albacarys et al. and which is believed will result in patentable claims for the appellants.

Since Fänger et al. essentially requires the use of only one compound, i.e. the hydrophilic starch esterified with one or more n-octenylsuccinate radicals, any number of compounds and any number of combinations of compounds could conceivably be added to the hydrophilic starch esterified with one or more n-octenylsuccinate radicals. The fundamental weakness of the examiner's rejection is that the combination of references and the motivations for doing so to approximate the appellants' claimed invention is that they are founded on knowledge one of ordinary skill in the art would not have been in possession of at the time the application was filed, i.e. the appellants' claims as a blueprint for the invention. The question remains "What would direct one of ordinary skill in the art to pick out the specific component needed by the examiner from Albacarys et al. to combine with Fänger et al.?"

To establish that there is no direction, we analyze the statements of MPEP 2142 as they apply to the present question:

> "...To reach a proper determination under 35 U.S.C. 103, the examiner must step backward in time and into the shoes worn by the hypothetical "person of ordinary skill in the art" ***when the invention was unknown and just before it was made***. In view of all factual information, the examiner must then make a determination whether the claimed invention "as a whole" would have been obvious at that time to that person. ***Knowledge of applicant's disclosure must be put aside in reaching this determination***, yet kept in mind in order to determine the "differences," conduct the search and evaluate the "subject matter as a whole" of the invention." (bold and italics added for emphasis)

Placing the specific facts into the teaching of MPEP 2142, one of ordinary skill in the art would have had before them on 23 May 2000 (the U.S. filing date of this application) access to the teachings of Fänger et al. and Albacarys et al. and would have considered their respective teachings as a whole. This person of ordinary skill in the art would not have had access to the appellants' specification and claims to guide them as of 23 May 2000.

When considering the teachings of Fänger et al. as a whole, it can easily be ascertained that they teach a method for reducing stickiness by using an effective amount of hydrophilic starch esterified with one or more n-octenylsuccinate radicals and that there are seventeen exemplifications of sample products which can be used. As Fänger et al. itself is teaching a "modification" of sorts, it is never adequately explained why one would conduct further modifications of Fänger et al.'s examples beyond the improper standard of it "could" be done.

Moreover, we are automatically assuming that one of ordinary skill in the art would have gravitated instantly to Example 6 of 17 within Fänger et al. and then had the foresight to make further modifications to this specific combination of components, the teachings of col. 9, line 62 - col. 10, line 5 of Fänger et al. notwithstanding.

Lastly, even with all of this hindsight reconstruction, we still do not achieve a water-in-oil emulsion which possesses the viscosity limitations of the appellants' claims which is addressed below.

(3) No evidence or rationale provided for Fänger et al. and Albacarys et al. having appellants' claimed viscosity range

Even if, *in arguendo*, it was permitted to select elements from Albacarys et al. as needed an combined them with Fänger et al., the examiner acknowledged that another difference between the Fänger et al. reference and the appellants' claimed invention is that there is no teaching for the viscosity limitation of less than 5000 mPa.s at 25° C.

As it has been established above that the teaching of Fänger et al. require the presence of hydrophilic starch esterified with one or more n-octenylsuccinate radicals (and as such the presumption that appellants emulsions also contain hydrophilic starch esterified with one or more n-octenylsuccinate radicals), it was the examiner's burden to show that such an emulsion with the characteristics defined by appellants claim 1 ***and*** a hydrophilic starch esterified with one or more n-octenylsuccinate radical would have the viscosity limitation of appellants claim 1.

The examiner previously stated that "the viscosity parameters must be met is all the limitations of the composition are met." (see page 5, lines 17-18 of Paper No. 25) which is untrue. The viscosity limitation narrows the scope of compounds and combinations of compounds which can be used to achieve the invention described by appellants claim 1. Checking off the list of ingredients represented by (a)-(d) of

appellants claim 1 will not automatically result in the desired viscosity and no evidence was presented by the examiner in support of her statement.

Moreover, the specific exemplification of the elements of claim 1 ***and*** a hydrophilic starch esterified with one or more n-octenylsuccinate radicals was created by the examiner as being encompassed by the claims was not addressed in the appellants' specification, i.e. appellants disclosed in the specification that addition of hydrophilic starch esterified with one or more n-octenylsuccinate radicals could be made. As stated above, the examiner provided no evidence in support of her position on viscosity and any such evidence that should have been provided would have needed to show the applicants' claimed invention with hydrophilic starch esterified with one or more n-octenylsuccinate radicals would have been known to have the claimed viscosity limitations.

The examiner attempted to argue this limitation away by reliance on routine optimization of conditions as stated in *In re Aller* (MPEP 2144.05 II. A), however, the appellants pointed out that the very next section in the MPEP (i.e. 2144.05 II. B) allows for this only when "A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977)." The examiner responded in her Advisory Action (last two lines of Continuation sheet) that "...viscosity is established as a result-effective variable."??? Apparently, the examiner misinterprets this to mean what one of ordinary skill in the art could view as a results-effective variable in general rather than what the prior art actually directs one of ordinary skill in the art to do. However, nowhere in the teachings of Fänger et al. or Albacarys et al. is such an assertion made or is it indicated which compound(s) need to be optimized in their amounts to produce the necessary viscosity.

(4) Claim limitations of claim 7 are not taught by Fänger et al. in view of Albacarys et al.

Even if one were to accept the examiner's position with regard to claims 1, 3-6, 8, 11 and 12, there is still no explanation for the limitation set forth by claim 7 which limits the amount of lipids, emulsifiers and lipophilic constituents to at most 20% by weight (Example 6 of Fänger et al. is 24% by weight).

ISSUE #3:	**Whether claims 2, 9 and 10 are obvious over Fänger et al. (U.S. Patent 6,153,204) in view of Albacarys et al. (U.S. Patent 6,338,855); Mahieu et al. (U.S. Patent 5,616,746); and Phillippe et al. (U.S. Publication 2002/0064539)**

The substance of the appellants response to the rejection based on Fänger et al. and Albacarys et al. is considered to be repeated here. Since claims 2, 9 and 10 are directly or indirectly dependent upon claim 1, should the rejection of claim 1 be reversed, this rejection would become moot. However, for the event that the rejections of claim 1 is maintained, the following additions to the arguments made for Issue #2 are presented below.

Necessity for the Mahieu et al. and Phillipe et al. references

Claims 2 and 9 include further limitations for the amount of water and water-soluble substances (greater than 80% and greater than 85%, respectively) and which are in excess of that taught by Example 6 of Fänger et al. (i.e. 76%). Claim 10 recites that the oil phase contains at least 75% of one of the substances described by claim 4 (Example 6 of Fänger et al. has paraffin oil as the largest constituent of their oil phase but this only comprises 41.6% of the oil phase).

Use of Mahieu et al. and Phillipe et al. suffer from same deficiencies as Albacarys et al. with regard to hindsight reconstruction

To paraphrase from the arguments made in Issue #2, (2) above: The question remains "What would direct one of ordinary skill in the art to pick out the specific component needed by the examiner from Mahieu et al. and Phillipe et al. to combine with Fänger et al.?"

Mahieu et al. and Phillipe et al. are relied upon for their water content teachings but differ significantly from with Albacarys et al. or Fänger et al. in the components which constitute their respective inventions. Mahieu et al. is directed toward a novel amino deoxyalditol compound and the water content teaching recited by the examiner are unique to the use of this specific compound. Similarly, Phillippe et al. is directed toward novel spider silk proteins and the water content recited by the examiner are unique to the use of this specific compound. There appears to be no connection between the water content ranges of Mahieu et al. or Phillippe et al. with respect to each other much less with respect to Fänger et al.

The is no factual basis to support the holding that one would look to Mahieu et al. or Phillippe et al. for additional water content ranges for Fänger et al.'s invention or to support the examiner's assertion that water content ranges can be routinely optimized.

Claim limitations of claim 10 are not taught by Mahieu et al. or Phillippe et al.

Even if one were to accept the examiner's position with regard to claims 2 and 9, there is no teaching within Mahieu et al. or Phillippe et al. which teaches the "at least 75% by weight" limitation for the amount of at least one substance for the oil phase.

(9) CONCLUSION

For the foregoing reasons, Appellants respectfully request that the Honorable Board reverse the final rejections.

CONDITIONAL PETITION FOR EXTENSION OF TIME

If any extension of time for this response is required, Appellants request that this be considered a petition therefor. Please charge the required petition fee to Deposit Account No. 14-1263.

ADDITIONAL FEE

Please charge any insufficiency of fees, or credit any excess to our Deposit Account No. 14-1263.

Respectfully submitted,
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I hereby certify that this correspondence is being deposited with the United States Postal Service as express mail, Label No. EV 383033841 US in an envelope addressed to: Hon. Commissioner of Patents, Mail Stop Appeal Brief, P.O. Box 1450, Alexandria, VA 22313-1450 on the date indicated below:

Date: **22 January 2004** By Agata Glinska

Agata Glinska

(10) APPENDIX - CLAIMS ON APPEAL

1. Water-in-oil emulsions

   (a) with a content of water and optionally water-soluble substances totalling at least 75% by weight and with a content of lipids, emulsifiers and lipophilic constituents totalling at most 25%, based in each case on the total weight of the emulsions,

   (b) whose oil phase is chosen from the group of lipids or lipid mixtures, where the total polarity of the oil phase is between 20 and 30 mN/m,

   (c) comprising at least one interface-active substance, selected from the group consisting of alkylmethicone copolyols, alkyldimethicone copolyols, and mixtures thereof,

   (d) optionally, comprising one or more cationic polymers,

   and having a viscosity at 25°C which is less than 5000 mPa•s.

2. Emulsions according to Claim 1, wherein the amount of water and water-soluble substances is greater than 80% by weight, based on the total weight of the emulsions.

3. Emulsions according to Claim 1, wherein the interface-active substances are selected from the group consisting of cetyldimethicone copolyol, laurylmethicone copolyol and mixtures thereof.

4. Emulsions according to Claim 1, wherein the oil phase consists of at least 50% by weight, of at least one substance selected from the group consisting of (butyldecanol + hexyldecanol + hexyloctanol + butyloctanol), hexyldecanol, octyldodecanol, dicaprylyl ether, caprylic/capric triglycerides, octyl palmitate, isopropyl stearate, octyl octanoate, C_{12-15}-alkyl benzoates, cetylstearyl isonoanoate, butylene glycol caprylate/caproate, tricaprylin, octyldodecyl myristate, di-C_{12-13}-alkyl tartrates, caprylic/capric diglycerol succinate, octyl isostearate, stearyl heptanoate, cocoyl caprylate/caproate, isopropyl palmitate, cetylstearyl octanoate, and octyl stearate.

5. Emulsions according to Claim 1, wherein cationic polymers are present in an amount of from 0.01 to 10%.

6. Emulsions according to Claim 1, wherein said cationic polymer(s) is/are selected from the group consisting of cationic cellulose derivatives, cationic starch, copolymers of diallylammonium salts and acrylamides, quaternized vinypyrrolidone/vinylimidazole polymers, condensation products of polyglycols and amines, quaternized collagen polypeptides, quaternized wheat polypeptides, polyethyleneimine, cationic silicone polymers, copolymers of adipic acid with dimethylaminohydroxypropyldiethylenetriamine, copolymers of acrylic acid with dimethyldiallylammonium chloride, polyaminopolyamides, cationic chitin derivatives, cationic guar gum, quaternized ammonium salt polymers, and cationic biopolymers.

7. The water-in-oil emulsions of claim 1, wherein said contents of lipids, emulsifiers and lipophilic constituents total at most 20%.

8. The emulsions of claim 5, wherein the content of water and water-soluble constituents is between 75 and 80%,

9. The emulsion of claim 2, wherein the amount of water and water-soluble substances is greater than 85% by weight, based on the total weight of the emulsions.

10. The emulsions of claim 4, wherein the oil phase consists of at least 75% of said at least one substance.

11. The emulsions of claim 5, wherein said cationic polymers are present in an amount of from 0.25-1.25%.

12. The emulsions of claim 6, wherein said cationic polymers are selected from the group consisting of chitosan, having an average molecular weight of from 50,000 to 2,000,000 g/mol, determined by means of gel permeation chromatography, and a degree of acetylation of from 10 to 99%, determined by means of ^{1}H-NMR.

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On the cover: Photomicrograph of potassium nitrate under high pressure, a specimen contained in a diamond-anvil high-pressure cell. (National Bureau of Standards)

McGRAW-HILL DICTIONARY OF CHEMICAL TERMS
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c ncerted reaction A reaction in which there is a simultan ous occurrence of bond making and bond breaking.

condensable vapors Gases or vapors which when subjected to appropriately altered conditions of temperature or pressur become liquids.

c ndensati n Transformation from a gas to a liquid.

condensation polymer A high-molecular-weight compound formed by condensation polymerization.

condensation polymerization The formation of high-molecular-weight polymers from monomers by chemical reactions of the condensation type.

condensation reaction One of a class of chemical reactions involving a combination between molecules or between parts of the same molecule.

condensation resin A resin formed by polycondensation.

condensation temperature In boiling-point determination, the temperature established on the bulb of a thermometer on which a thin moving film of liquid coexists with vapor from which the liquid has condensed, the vapor phase being replenished at the moment of measurement from a boiling-liquid phase.

condensed system A chemical system in which the vapor pressure is negligible or in which the pressure maintained on the system is greater than the vapor pressure of any portion.

conductimetry The scientific study of conductance measurements of solutions; to avoid electrolytic complications, conductance measurements are usually taken with alternating current.

conductometric titration A titration in which electrical conductance of a solution is measured during the course of the titration.

configuration The three-dimensional spatial arrangement of atoms in a stable or isolable molecule.

configuration interaction Interaction between two different possible arrangements of the electrons in an atom (or molecule); the resulting electron distribution, energy levels, and transitions differ from what would occur in the absence of the interaction.

conformation In a molecule, a specific orientation of the atoms that varies from other possible orientations by rotation or rotations about single bonds; generally in mobile equilibrium with other conformations of the same structure. Also known as conformational isomer; conformer.

conformational analysis The determination of the arrangement in space of the constituent atoms of a molecule that may rotate about a single bond.

congener A chemical substance that is related to another substance, such as a derivative of a compound or an element belonging to the same family as another element in the periodic table.

congo red $C_{32}H_{22}N_6Na_2O_6S_2$ An azo dye, sodium diphenyldiazo-bis-α-naphthylamine sulfonate, used as a biological stain and as an acid-base indicator; it is red in alkaline solution and blue in acid solution.

conjugate acid-base pair An acid and a base related by the ability of the acid to generate the base by loss of a proton.

conjugated diene An acyclic hydrocarbon with a molecular structure containing two carbon-carbon double bonds separated by a single bond.

conjugated polyene An acyclic hydrocarbon with a molecular structure containing alternating carbon-carbon double and single bonds.

conode *See* tie line.

polygen *See* polyvalent.

polyglycol A dihydroxy ether derived from th dehydration (removal of a water molecule) of two or more glycol molecules; an xample is diethylene glycol, $CH_2OHCH_2OCH_2CH_2OH$.

polyglyc l distearate $(C_{17}H_{35})_2CO_2CO(CH_2CH_2O)_x$ An off-white, soft solid with a melting point of 43°C; soluble in chlorinated solvents, acetone, and light esters; us d as a resin plasticizer. Also known as polyethylene glycol distearate.

polyhydric alcohol An alcohol with many hydroxyl (—OH) radicals, such as glycerol, $C_3H_5(OH_3)$. Also known as polyalcohol; polyol.

polyhydric phenol A phenolic compound containing two or more hydroxyl groups, such as diphenol, $C_6H_4(OH)_2$.

polyimide resin An aromatic polyimide made by reacting pyromellitic dianhydride with an aromatic diamine; has high resistance to thermal stresses; used to make components of internal combustion engines.

polyisoprene $(C_5H_8)_x$ The basis of natural rubber, balata, gutta-percha, and oth r rubberlike materials; can also be made synthetically; the stereospecific forms are *cis*-1,4- and *trans*-1,4-polyisoprene; the polymer is thermoplastic.

polylactic resin A soft, elastic resin made by the heat reaction of lactic acid with castor oil or other fatty oils; used to produce tough, water-resistant coatings.

polymer Substance made of giant molecules formed by the union of simple molecules (monomers); for example polymerization of ethylene forms a polyethylene chain, or condensation of phenol and formaldehyde (with production of water) forms phenol-formaldehyde resins.

polymerization **1.** The bonding of two or more monomers to produce a polymer. **2.** Any chemical reaction that produces such a bonding.

polymethyl methacrylate A thermoplastic polymer derived from methyl methacrylate, $CH_2{=}C(CH_3)COOCH_3$; transparent solid with excellent optical qualities and water resistance; used for aircraft domes, lighting fixtures, optical instruments, and surgical appliances.

polynuclear hydrocarbon Hydrocarbon molecule with two or more closed rings; examples are naphthalene, $C_{10}H_8$, with two benzene rings side by side, or diphenyl, $(C_6H_5)_2$, with two bond-connected benzene rings. Also known as polycyclic hydrocarbon.

polyol *See* polyhydric alcohol.

polyolefin A resinous material made by the polymerization of olefins, such as polyethylene from ethylene, polypropylene from propylene, or polybutene from butylen .

polyorganosiloxane *See* polysiloxane.

polyoxyalkylene resin Condensation polymer produced from an oxyalkene, such as polyethylene glycol from oxyethylene or ethylene glycol.

polyoxyethylene (8) stearate *See* polyoxyl (8) stearate.

polyoxyl (8) stearate A cream-colored, soft, waxy solid at 25°C; soluble in toluene, acetone, ether, and ethanol; used in bakery products as an emulsifier. Also known as polyoxyethylene (8) stearate.

polyphenyl Any of a group of direct colors used to dye cotton and wool.

polyphenylene oxide A polyether resin of 2, 6-dimethylphenol, $(CH_3)_2C_6H_3OH$; useful temperature range is −275 to 375°F (−168 to 191°C), with intermittent use possible up to 400°F (204°C).

amin On of a class of organic compounds which can be consider d to be derived from ammonia by replacement of one or mor hydrogens by organic radicals.

amino- Having the property of a compound in which the group NH_2 is attached to a radical other than an acid radical. Also spelled amin-.

amin alcohol *See* alkamine.

1-aminoanthraquinone $C_{14}H_9NO_2$ Ruby-red crystals with a melting point of 250°C; freely soluble in alcohol, benzene, chloroform, ether, glacial acetic acid, and hydrochloric acid; used in the manufacture of dyes and pharmaceuticals.

1-aminobutane *See* *n*-butyl amine.

2-amino-1-butanol $CH_3CH_2CH(NH_2)\ CH_2OH$ A liquid miscible with water, soluble in alcohols; used in the synthesis of surface-active agents, vulcanizing accelerators, and pharmaceuticals, and as an emulsifying agent for such products as cosmetic creams and lotions. Also known as 2-amino-*n*-butyl alcohol.

2-amino-*n*-butyl alcohol *See* γ-aminobutyric acid.

γ-aminobutyric acid $H_2NCH_2CH_2\ CH_2COOH$ Crystals which are either leaflets or needles, with a melting point of 202°C; thought to be a central nervous system postsynaptic inhibitory transmitter. Abbreviated GABA. Also known as γ-amino-*n*-butyric acid; piperidic acid.

α-aminocaproic acid $C_6H_{13}NO_2$ Crystals with a melting point of 204–206°C; freely soluble in water; used as an antifibrinolytic agent and a spacer for affinity chromatography. Also known as 6-aminohexanoic acid; epsilcapramin.

aminocarb $C_{11}H_{16}N_2O_2$ A tan, crystalline compound with a melting point of 93–94°C; slightly soluble in water; used as an insecticide for control of forest insects and pests of cotton, tomatoes, tobacco, and fruit crops. Also known as 4-(dimethylamino)-*meta*-tolyl-methylcarbamate.

aminodiborane Any compound derived from diborane (B_2H_6) in which one H of the bridge has been replaced by NH_2.

3-amino-2,5-dichlorobenzoic acid $C_7H_5\ O_2NCl_2$ A white solid with a melting point of 200–201°C; solubility in water is 700 parts per million at 20°C; used as a preemergence herbicide for soybeans, corn, and sweet potatoes. Also known as chloramben.

***para*-aminodiphenyl** *See* *para*-byphenyylamine.

1-aminoethanol *See* aldehyde ammonia.

S-(2-aminoethyl)isothiuronium bromide hydrobromide $C_3H_{11}Br_2N_3S$ Hygroscopic crystals with a melting point of 194–195°C; used as a radioprotective agent. Abbreviated AET.

6-aminohexanoic acid *See* ε-aminocaproic acid.

3-amino-1*H*-1,2,4-triazole *See* aminotriazole.

α-amino-α-iminoethane hydrochloride *See* acetamidine hydrochloride.

3-aminoisonaphthoic acid *See* 3-amino-2-naphthoic acid.

aminomercuric chloride *See* ammoniated mercury.

aminomethane *See* methylamine.

2-amino-2-methyl-1,3-propanediol $HOCH_2C(CH_3)(NH_2)CH_2OH$ Crystals with a melting point of 109–111°C; soluble in water and alcohol; used in the synthesis of surface-active agents, pharmaceuticals, and vulcanizers, and as an emulsifying agent for cosmetics, leather dressings, polishes, and cleaning compounds.

3-amino-2-naphthoic acid $H_2NC_{10}H_6\ COOH$ Yellow crystals in the shape of scales with a melting point of 214°C; soluble in alcohol and ether; used in the determination of copper, nickel, and cobalt. Also known as 3-aminoisonaphthoic acid.